

1. (CURRENTLY AMENDED) A mortar grouting type joint for reinforcing bars, comprising:

a hollow cylindrical body defining a longitudinal central axis and having an opening cover (2) at first and second ends thereof, a bolt hole (8) on the side wall, and first and second longitudinally oriented supporting protrusions (5) at first and second axial positions on the an inner peripheral wall, said supporting protrusions extending in a direction substantially parallel to said axis, each being adapted to support a reinforcing bar bars (12) inserted through one of said opening covers each opening cover with bolts (13) and the supporting protrusions (5), wherein the portion of the inner peripheral wall between the first and second supporting protrusions is substantially linear;

each at least a first of the supporting protrusion (5) protrusions (5) consists of a pair of thin-walled members extending in the longitudinal direction of the hollow cylindrical body, wherein the contact points of each of said thin-walled members with said peripheral wall define substantially parallel lines a line substantially parallel to a line defined by the contact points of the corresponding thin-walled member with said peripheral wall; and

said thin-walled members each have a ridge line (7) sloping ~~toward~~ relative to the inner wall the opening cover (2), with the portion of each the thin-walled member adapted for supporting the reinforcing bar (12) inserted through the opening cover (2) constituting the apex;

wherein said joint defines an unobstructed space extending between the opening covers and aligned with said central axis, said space having a diameter at all points along a length of said joint that is equal to at least twice a distance between said central axis and apexes of said thin walled members.

2. (CANCEL)

3. (CURRENTLY AMENDED) A mortar grouting type joint for reinforcing bars according to claim 1, wherein each of the pair of thin-walled members constituting the first supporting protrusion (5) has an angle ridge line (7) sloping on both sides of the

apexes of each of the thin walled members. ~~with the portion supporting the reinforcing bar (12) constituting the apex.~~

4. (CURRENTLY AMENDED) A mortar grouting type joint for reinforcing bars according to claim 1, wherein the bolt hole (8) is situated between the first supporting protrusion (5) and one of the an opening covers ~~cover~~ (2).

5. (PREVIOUSLY AMENDED) A mortar grouting type joint for reinforcing bars according to claim 1, wherein the bolt hole (8) is situated in the portion of the cylindrical body side wall facing to the first supporting protrusion (5).

6. (CURRENTLY AMENDED) A mortar grouting type joint for reinforcing bars according to claim 1, wherein:

the distance between the reinforcing bar supporting portions (6) of the each pair of thin-walled members is smaller than the diameter of a circular hole (3) in each opening cover ~~the reinforcing bar (12)~~; and

the distance between the reinforcing bar supporting portion (6) and the cylindrical body central axis is substantially equal to the radius of the circular hole (3) of the opening cover (2) on the same side of the joint as the supporting protrusion.

7. (CURRENTLY AMENDED) A mortar grouting type joint for reinforcing bars according to claim 1, wherein the bolt hole (8) is proximate and substantially opposite the apexes of one of the pairs of the thin walled members ~~provided in the vicinity of the point at which the straight line passing through the midpoint between the reinforcing bar supporting portions (6) of the pair of thin-walled members and the central axis of the hollow cylindrical body intersects the inner wall of the hollow cylindrical body.~~

8. (CURRENTLY AMENDED) A mortar grouting type joint for reinforcing bars according to claim 1, wherein a the line segment connecting the contact points of one of the pairs ~~each of the pair~~ of thin-walled members and the cylindrical body inner

wall is arranged perpendicularly to the thin-walled members, the pair of thin-walled members extending parallel to each other.

9. (CURRENTLY AMENDED) A mortar grouting type joint for reinforcing bars according to claim 1, wherein ~~a~~ the line segment connecting the contact points of one of the pairs ~~the pair~~ of thin-walled members and the cylindrical body inner wall is arranged perpendicularly to the thin-walled members, the distance between the pair of thin-walled members increasing continuously from the reinforcing bar supporting portions (6) toward the opening cover (2) side of the hollow cylindrical body.

10. (CURRENTLY AMENDED) A mortar grouting type joint for reinforcing bars according to claim 1, wherein an ~~the~~ angle made by ~~a~~ the line segment connecting contact points of one of the pairs ~~the pair~~ of thin-walled members and the inner wall of the hollow cylindrical body and by the thin-walled members constitutes ~~constitute~~ an acute angle, ~~the pair of thin-walled members being parallel to each other.~~

11. (CURRENTLY AMENDED) A mortar grouting type joint for reinforcing bars according to claim 1, wherein an ~~the~~ angle made by ~~a~~ the line segment connecting the contact points of one of the pairs ~~the pair~~ of thin-walled members and the inner wall of the hollow cylindrical body and by the thin-walled members constitutes ~~constitute~~ an acute angle, the distance between the pair of thin-walled members increasing continuously from the reinforcing bar supporting portions (6) toward an end ~~the both ends~~ of the hollow cylindrical body.

12. (CURRENTLY AMENDED) A mortar grouting type joint for reinforcing bars according to claim 1, wherein ~~the diameter of the circular hole (3) of~~ a first of the opening covers (2) comprises a circular hole adapted to receive a ~~is the same as the diameter of the~~ reinforcing bar (12) inserted into the joint, ~~or an appropriate clearance is provided between the circular hole (3) of the opening cover (2) and the reinforcing bar (12) inserted into the joint.~~

13. (PREVIOUSLY AMENDED) A mortar grouting type joint for reinforcing bars according to claim 1, wherein a seal member mounting portion is integrally attached to the outer side of an opening cover (2).

14. (CURRENTLY AMENDED) A mortar grouting type joint for reinforcing bars according to claim 1, wherein ~~each of the~~ facing surfaces of the pair of thin-walled members each have ~~has~~ a dip angle which facilitates the guiding of the reinforcing bar (12).

15. (CANCELLED)

16. (CANCELLED)

17. (CURRENTLY AMENDED) A mortar grouting type joint for reinforcing bars, comprising:

a hollow cylindrical body having an opening cover (2) at an end, a bolt hole (8) on the sidewall, and a supporting protrusion (5) on the inner peripheral wall, adapted to support a reinforcing bar (12) ~~bars (12) with a bolt (13) and the supporting protrusion (5),~~ wherein:

the supporting protrusion (5) consists of a pair of thin-walled members extending longitudinally ~~in the longitudinal direction of~~ the hollow cylindrical body; and

said thin-walled members each have a ridge line (7) sloping toward the inner peripheral wall ~~opening cover (2),~~ with a ~~the~~ portion of each ~~the~~ thin-walled member adapted to support ~~supporting~~ the reinforcing bar (12) inserted through the opening cover (2) constituting the apex; and

wherein the bolt hole (8) is provided proximate in the vicinity of the a point on the sidewall that is substantially opposite a midpoint of a straight line connecting the apexes of said thin-walled members ~~at which the straight line passing through the midpoint between the reinforcing bar supporting portions (6) of the pair of thin-walled members and the central axis of the hollow cylindrical body intersects the inner wall of the hollow cylindrical body.~~

18. (CURRENTLY AMENDED) A mortar grouting type joint for reinforcing bars, comprising:

a hollow cylindrical body having an opening cover (2) at an end, a bolt hole (8) on the sidewall, and a supporting protrusion (5) on the inner peripheral wall, adapted to support a reinforcing bar (12) ~~bars (12) with a bolt (13) and the supporting protrusion (5),~~ wherein:

the supporting protrusion (5) consists of a pair of thin-walled members extending longitudinally ~~in the longitudinal direction of~~ the hollow cylindrical body; and

said thin-walled members each have a ridge line (7) sloping toward the inner peripheral wall ~~the opening cover (2), with a which~~ the portion of the thin-walled member adapted to support ~~supporting~~ the reinforcing bar (12) inserted through the opening cover (2) constituting the apex; and

wherein a ~~the~~ line segment connecting the contact points of each of the ~~pair of~~ thin-walled members and the cylindrical body inner wall is oriented substantially perpendicular ~~arranged perpendicularly~~ to the thin-walled members, the pair of thin-walled members extending parallel to each other.

19. (CURRENTLY AMENDED) A mortar grouting type joint for reinforcing bars, comprising:

a hollow cylindrical body defining a longitudinal central axis and having an opening cover (2) at an end, a bolt hole (8) on a ~~the~~ sidewall, and a supporting protrusion (5) on an ~~the~~ inner peripheral wall, said supporting protrusion adapted to support a reinforcing bar (12) ~~bars (12) with a bolt (13) and the supporting protrusion (5),~~ wherein:

the supporting protrusion (5) consists of a pair of thin-walled members extending in the longitudinal direction of the hollow cylindrical body; and

said thin-walled members each have a ridge line (7) sloping toward the inner peripheral wall ~~opening cover (2), with a~~ the portion of each ~~the~~ thin-walled member adapted to support ~~supporting the~~ a reinforcing bar (12) inserted through the opening cover (2) constituting the apex; and

wherein ~~the line segment connecting the contact points of the pair of thin-walled members and the cylindrical body inner wall is arranged perpendicularly to the thin-~~

~~walled members and the cylindrical body inner wall is arranged perpendicularly to the thin-walled members, the distance between the pair of thin-walled members increases increasing continuously from the apexes reinforcing bar supporting portions (6) toward the opening cover (2) side of the hollow cylindrical body.~~

20. (CURRENTLY AMENDED) A mortar grouting type joint for reinforcing bars, comprising:

a hollow cylindrical body defining a longitudinal central axis having an opening cover (2) at an end, a bolt hole (8) on ~~a~~ the sidewall, and a supporting protrusion (5) on ~~an~~ the inner peripheral wall, the supporting protrusion being adapted to support reinforcing bars ~~(12) with a bolt (13) and the supporting protrusion (5),~~ wherein:

the supporting protrusion (5) consists of a pair of thin-walled members extending in the longitudinal direction of the hollow cylindrical body; and

said thin-walled members each decrease in height ~~have a ridge line (7) sloping~~ toward the opening cover (2), with ~~a~~ the portion of each of the thin-walled members ~~member adapted to support~~ supporting the reinforcing bar (12) inserted through the opening cover (2) constituting the apex; and

wherein ~~the angle made by the line segment connecting~~ contact points of the pair of thin-walled members with and the inner wall define first and second substantially parallel lines, of the hollow cylindrical body and wherein a line segment connecting said first and second lines lies at an acute angle relative to ~~and by the thin-walled members constitutes an acute angle, the pair of thin-walled members being parallel to each other.~~

21. (CURRENTLY AMENDED) A mortar grouting type joint for reinforcing bars, comprising:

a hollow cylindrical body having an opening cover (2) at an end, a bolt hole (8) on ~~a~~ the sidewall, and a supporting protrusion (5) on ~~an~~ the inner peripheral wall, adapted to support ~~a reinforcing bar (12) bars (12) with a bolt (13) and the supporting protrusion (5),~~ wherein:

the supporting protrusion (5) consists of a pair of thin-walled members extending in ~~a~~ the longitudinal direction of the hollow cylindrical body; and

said thin-walled members each include an apex adapted to support a reinforcing bar inserted through the opening cover (2) and have a ridge line (7) sloping from the apex toward the inner peripheral wall opening cover (2), with the portion of the thin-walled member supporting the reinforcing bar (12) inserted through the opening cover (2) constituting the apex; and

wherein ~~the angle made by the line segment connecting the contact points of each of the pair of thin-walled members and the inner wall define first and second lines separated by a distance that increases in a direction from the apexes toward the opening cover (2), and wherein a line segment connecting the first and second lines lies at an acute angle relative to the thin-walled portions of the hollow cylindrical body and by the thin-walled members constitutes an acute angle, the distance between the pair of thin-walled members increasing continuously from the reinforcing bar supporting portions (6) toward the both ends of the hollow cylindrical body.~~

22. (CURRENTLY AMENDED) A mortar grouting type joint for reinforcing bars, comprising:

a hollow cylindrical body defining a central axis and having an opening cover (2) at an end, a bolt hole (8) on a the sidewall, and a supporting protrusion (5) on an the inner peripheral wall, adapted to support a reinforcing bar (12) bars (12) with a bolt (13) and the supporting protrusion (5), wherein:

the supporting protrusion (5) consists of a pair of thin-walled members extending ~~in the longitudinal direction of the hollow cylindrical body~~ in a direction substantially parallel said central axis; and

said thin-walled members each have a ridge line (7) sloping toward the inner peripheral wall the opening cover (2), with a the portion of the thin-walled member adapted to support supporting the reinforcing bar (12) inserted through the opening cover (2) constituting the apex; and

wherein a seal member mounting portion is integrally attached to the outer side of the opening cover (2).